

AMENDMENTS TO THE CLAIMS:

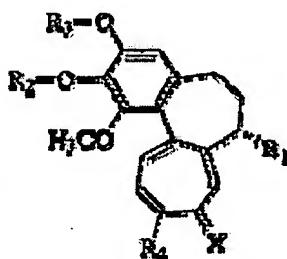
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

1-11. (Canceled)

12. (Currently Amended) A tricyclic derivative represented by the following <Formula 1> or pharmaceutically acceptable salts thereof:

<Formula 1>



wherein

(1) R₁ is -T₁-B₁;

wherein

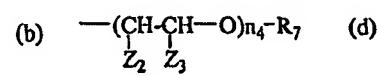
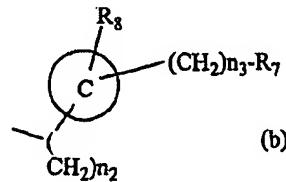
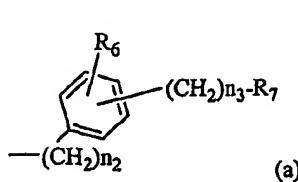
T₁ is -X₁-, -X₁-C(X₂)-, -N(R₅)-, -N(R₅)C(X₂)-, -N(R₅)S(O)n₁-, -N(R₅)C(O)-X₁- or -N(R₅)C(X₁)NH-,

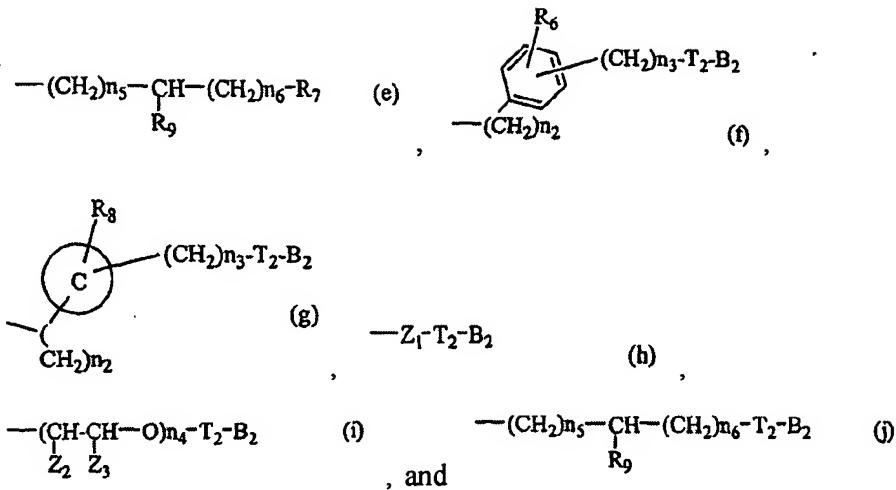
wherein

X₁ and X₂ are O or S; and

R₅ is H or C₁ ~ C₅ alkyl group, n₁ is an integer of 1~2; and

B₁ is selected from the group consisting of



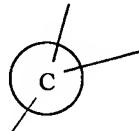


wherein,

R_6 is halogen, hydroxy, $\text{C}_1\text{-C}_3$ alkoxy, amino, nitro, cyano or $\text{C}_1\text{-C}_3$ lower alkyl group; and

R_8 are each is H, halogen, hydroxy, $\text{C}_1\text{-C}_3$ alkoxy, amino, nitro, cyano or $\text{C}_4\text{-C}_8\text{ C}_1\text{-C}_3$ lower alkyl group;

R_7 is mercapto, ONO , ONO_2 or SNO , and R_9 is are each halogen, hydroxyl, mercapto, -ONO , ONO_2 or SNO , in which R_7 and R_9 are same or different;



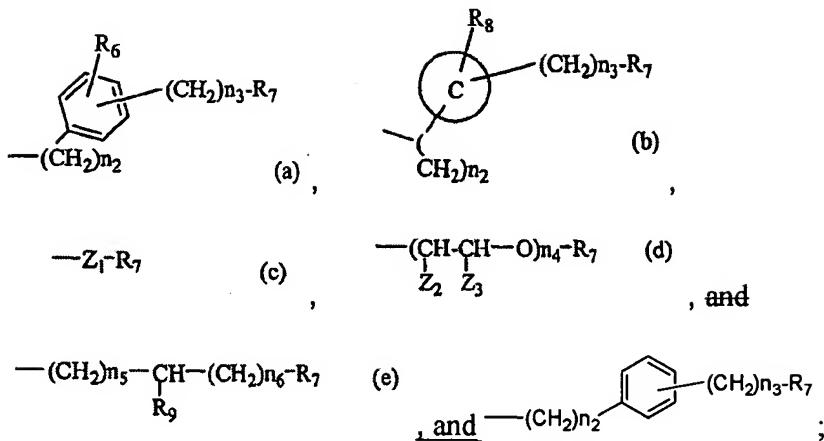
is a $\text{C}_5\text{-C}_6$ membered saturated or unsaturated heterocyclic ring containing 1~2 of hetero atom, in which the hetero atom is selected from a group consisting of O, S and N;

T_1 is $\text{C}_1\text{-C}_{10}$ straight-chain or branched-chain alkyl group;

Z_2 and Z_3 are each independently H or methyl group, in which Z_3 is H when Z_2 is methyl group, Z_2 is H when Z_3 is methyl group;

T_2 is $\text{-X}_1\text{-}$ or $\text{-X}_1\text{-C(X}_2\text{)}$, in that X_1 and X_2 are each independently O or S;

B_2 is selected from the group consisting of:



n_2 is an integer of 0-3;

n_3 is an integer of 1-5;

n_4 is an integer of 1-5; and

n_5 and n_6 are each independently an integer of 1-6;

(2) R_2 and R_3 are each independently H, $-PO_3H_2$, phosphonate, sulfate, C_3-C_7 cycloalkyl, C_2-C_7 alkenyl, C_2-C_7 alkynyl, C_1-C_7 alkanoyl, C_1-C_7 straight-chain or branched-chain alkyl or sugar, in which sugar is a monosaccharide such as glucuronyl, glucosyl or galactosyl;

(3) R_4 is OCH_3 , SCH_3 or $NR_{10}R_{11}$, in which R_{10} and R_{11} are each independently H or C_{1-5} alkyl; and

(4) X is O or S.

13. (Previously Presented) The tricyclic derivative or pharmaceutically acceptable salts thereof as set forth in claim 12, wherein

T_1 is $-N(R_5)C(X_2)-$, $-N(R_5)C(O)-X_1-$ or $-N(R_5)C(X_1)NH-$, wherein X_1 and X_2 are each O,

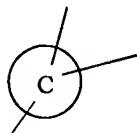
n_4 is an integer of 1-3;

n_5 and n_6 are each independently an integer of 1~3;

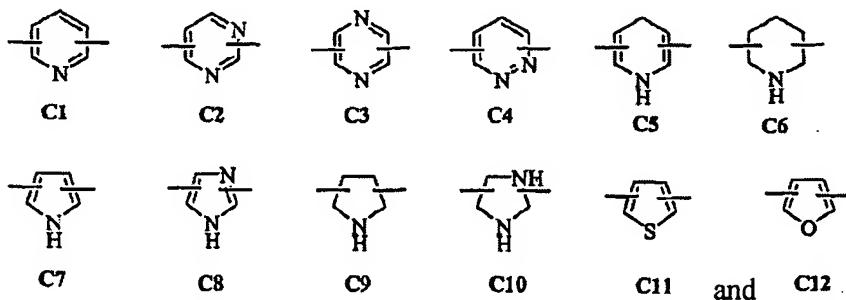
R_2 and R_3 are each independently C_3-C_7 cycloalkyl or C_1-C_7 alkyl; and

R_4 is SCH_3 or OCH_3 .

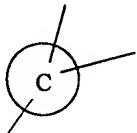
14. (Previously Presented) The tricyclic derivative or pharmaceutically acceptable salts thereof as set forth in claim 12, wherein



is selected from the group consisting of



15. (Previously Presented) The tricyclic derivative or pharmaceutically acceptable salts thereof as set forth in claim 12, wherein



is selected from the group consisting of C1 (pyridyl group) substituted at position 2 and 6 or position 2 and 5, C7 (pyrrolyl group) substituted at position 2 and 5 or position 2 and 4, C11 (thiophenyl group) and C12 (furanyl group).

16. (Previously Presented) The tricyclic derivative or pharmaceutically acceptable salts thereof as set forth in claim 12, wherein Z_1 is $C_2 \sim C_5$ straight-chain or branched-chain alkyl group or cycloalkyl group having substituent.

17. (Previously Presented) A tricyclic derivative or pharmaceutically acceptable salts thereof, wherein the tricyclic derivative comprises:

- 1) 6-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benz[a]heptalen-7-yl]-nicotineamide;
- 2) 5-nitrooxymethyl-furan-2-carboxylic acid-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;
- 5) 6-nitrooxymethyl-pyridine-2-carboxylic acid-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;
- 6) 5-nitrooxymethyl-thiophene-2-carboxylic acid-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;
- 8) N-[(7S)-3-ethoxy-1,2-dimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-2-fluoro-3-nitrooxymethyl-benzamide;
- 9) 2-fluoro-N-[(7S)-3-isopropoxy-1,2-dimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-3-nitrooxymethyl-benzamide;
- 10) 2-fluoro-3-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;
- 11) N-[(7S)-3-cyclopentyloxy-1,2-dimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benz[a]heptalen-7-yl]-2-fluoro-3-nitrooxymethyl-benzamide;
- 12) 3-fluoro-5-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

13)

N-[(7S)-3-ethoxy-1,2-dimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-3-fluoro-5-nitrooxymethyl-benzamide;

14)

3-fluoro-N-[(7S)-3-isopropoxy-1,2-dimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-5-nitrooxymethyl-benzamide;

15)

N-[(7S)-3-cyclopentyloxy-1,2-dimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-3-fluoro-5-nitrooxymethyl-benzamide;

16)

4-fluoro-3-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

17)

2-fluoro-5-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

18)

3-hydroxy-5-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

19)

3,5-bis-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

20)

2-hydroxy-4-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

21) 4-nitrooxymethyl-thiophene-2-carboxylic acid

[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;

- 22) 3-nitrooxymethyl-thiophene-2-carboxylic acid
[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;
- 25) 3-nitrooxybenzoic
acid-5-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptale
n-7-yl-carbamoyl]-pyridine-2-yl-methylester;
- 26) 4-nitrooxybutyric
acid-5-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptale
n-7-yl-carbamoyl]-pyridine-2-yl-methylester;
- 27) 3-nitrooxymethyl-benzoic
acid-6-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptale
n-7-yl-carbamoyl]-pyridine-2-yl-methylester;
- 28) 4-nitrooxybutyric
acid-6-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptale
n-7-yl-carbamoyl]-pyridine-2-yl-methylester;
- 29) 3-nitrooxymethyl-benzoic
acid-2-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptale
n-7-yl-carbamoyl]-phenylester;
- 30) 4-nitrooxybutyric
acid-2-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptale
n-7-yl-carbamoyl]-phenylester;
- 31) 3-nitrooxymethyl-benzoic
acid-3-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptale
n-7-yl-carbamoyl]-phenylester;
- 32) 4-nitrooxybutyric
acid-3-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptale
n-7-yl-carbamoyl]-phenylester;

- 33) 3-nitrooxymethyl-benzoic acid-3-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-benzylester;
- 34) 4-nitrooxybutyric acid-3-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-benzylester;
- 37)
- 3-fluoro-5-nitrosooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;
- 39)
- 3-fluoro-5-nitrosothiomethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;
- 40)
- 3-fluoro-5-nitrooxymethyl-N-[(7S)-1,2,3,10-tetramethoxy-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;
- 42)
- 3-fluoro-N-methyl-5-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;
- 43)
- 2-(3-fluoro-5-nitrooxymethyl-phenyl)-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-acetamide; or
- 44)
- 2-(2-fluoro-5-nitrooxymethyl-phenyl)-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-acetamide.

18. (Previously Presented) An anticancer agent composition or anti-proliferation agent composition comprising the tricyclic derivatives or pharmaceutically acceptable salts thereof as set forth in claim 12 as an effective ingredient and a pharmaceutically acceptable excipient.

19. (Previously Presented) An angiogenesis inhibitor composition comprising the tricyclic derivatives or pharmaceutically acceptable salts thereof as set forth in claim 12 as an effective ingredient and a pharmaceutically acceptable excipient.
20. (Previously Presented) An anticancer agent composition or anti-proliferation agent composition comprising the tricyclic derivatives or pharmaceutically acceptable salts thereof as set forth in claim 17 as an effective ingredient and a pharmaceutically acceptable excipient.
21. (Previously Presented) An angiogenesis inhibitor composition comprising the tricyclic derivatives or pharmaceutically acceptable salts thereof as set forth in claim 17 as an effective ingredient and a pharmaceutically acceptable excipient.